2/3 019 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0131321

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR THE SPECTROPHOTOMETRIC DETN. OF THEOPHYLLINE (I), EPHEDRINE-HCL (II), AND DIMEDROL (III), ABSORPTION MAX. AT 271, 258, AND 259 NM, RESP., IN 95PERCENT ETOH SOLNS. WERE SELECTED WITH THE CORRESPONDING E PRIME1PERCENT SUB1 CM VALUES OF 537.3 PLUS OR MINUS 2.8, 8.81 PLUS OR MINUS 0.07, AND 14.57 PLUS OR MINUS 0.03. BEER'S LAW WAS OBEYED OVER THE CONCN. RANGE 2-15, 100-800, AND 100-600 MUG-ML OF I, II, AND III, RESP. TO DET. I IN MIXTS. CONTG. II AND III, DISSOLVE A SAMPLE CONTG. SIMILAR TO 0.05 G I IN 30-40 ML ETOH, DIL. THE SOLN. FIRST TO 50 ML WITH ETOH AND THEN TO A CONCN. OF 7-12 MUG I-ML, AND MEASURE THE ABSORPTION AT 271 NM. TO DET. II AND III IN MIXTS. CONTG. I THE FOLLOWING PROCEDURE WAS DEVELOPED: EXT. A 0.05 G SAMPLE WITH 2-3 ML ETOH ON A WATER BATH, DIL. THE SOLN. TO 5 ML WITH ETOH, AND FILTER. APPLY SEVERAL 0.1-ML PORTIONS OF THE FILTRATE TO A 20 TIMES 30 CM PLATE COVERED WITH A 0.7 MM THICK AL SUB2 O SUB3 LAYER (AL SUB2 O SUB3 PREPD. BY REFLUXING 1 HR WITH 1PERCENT HCL, WASHING TO NEUTRAL REACTION, AIR DRYING, AND CONDITIONING 1 HR AT 180DEGREES ON THE PLATE) AND DEVELOP FOR 20-30 MIN IN C SUB6 H SUB6-ETOH (9:1) IN A CHAMBER CONTG. ADDNL. 4-5 ML 25PERCENT AQ. NH SUB3. SPRAY THE WET CHROMATOGRAMS WITH A MODIFIED DRAGENDORFF REAGENT TO DETECT I (R SUBF 0.10), II (R SUBF 0.65), AND III (R SUBF 0.88). FROM ANALOGOUS UNSPRAYED CHROMATOGRAMS CUT OUT SPOTS DUE TO II AND III, EXT. THEM SEP. WITH 2.5 ML ETOH, MAKE UP THE EXTS. TO 5 ML WITH ETOH, AND MEASURE THE ABSORPTION AT 258 AND 259 NM, RESP., AGAINST BLANK SOLNS. THE PROCEDURE WAS EMPLOYED FOR DETG. I, II, AND III IN TABLETS.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

3/3 019

CIRC ACCESSION NO--AP0131321

ABSTRACT/EXTRACT--THE ERROR WAS PLUS OR MINUS 0.19 TO PLUS OR MINUS 0.43, PLUS OR MINUS 0.32 TO PLUS OR MINUS 1.98, AND PLUS OR MINUS 0.54 TO PLUS OR MINUS 1.31PERCENT FOR I, II, AND III, RESP. FACILITY: KIEV. INST. POSTGRAD. TRAINING PHYSICIANS, KIEV, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--RADON EXHALATION FROM VAST AREAS ACCORDING TO VERTICAL DISTRIBUTION OF ITS SHORT LIVED DECAY PRODUCTS -U-

AUTHOR--KIRICHENKO, L.V.

K

COUNTRY OF INFO--USSR

SOURCE--J. GEOPHYS. RES. 1970, 75(18), 3639-49

DATE PUBLISHED-------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, ATMOSPHERIC SCIENCES

TOPIC TAGS--RANDON ISOTOPE, NATURAL RADIOACTIVITY, ATMOSPHERIC RADIOACTIVITY, GROUND SURVEY, RADIOACTIVITY MEASUREMENT, PARTICLE DISTRIBUTION, ATMOSPHERIC SOUNDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1058 STEP NO--US/0000/70/075/018/3639/3649

CIRC ACCESSION NO--AP0136478

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0136478
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE USE OF NATURAL RADIOACTIVITY IN THE INVESTIGATION OF MIXING AND TRANSPORT PROCESSES IN THE ATM. IS IMPOSSIBLE WITHOUT ALLOWING FOR RN INFLUX FROM VAST SURFACES OF THE EARTH. AN EST. OF THE EFFECTIVE RN FLUX FROM AREAS WITH NONUNIFORM EMANATION IS CONSIDERED. THE TECHNIQUE CONSISTS OF CALCG. THE TOTAL AMT. OF NATURAL RADIOACTIVE PRODUCTS THROUGH THE ENTIRE ATM. PER UNIT OF GROUND SURFACE. A VERTICAL PROFILE OF THE ALPHA ACTIVE SHORT LIVED PRODUCTS OF RN WAS DETD. BY SOUNDING THE ATM. WITH EQUIPMENT INSTALLED IN AIRCRAFT. THE POSSIBILITIES OF THE TECHNIQUE ARE ANALYZED. CHARACTERISTICS OF EMANATION OF SEVERAL REGIONS IN THE SOVIET UNION ARE GIVEN. FACILITY: HYDROMETEOROL. SERV., MSOCOW, USSR.

UNCLASSIFIED

USSR UDC 8.74

TYRSA, V. YE., DYUNYASHEV, V. V., KIRICHENKO, N. P., LEVYKIN, V. M., ROMANOVA, A. G.

"Analysis of the Accuracy of Analog-to-Digital Transformation with Automatic Exclusion of Systematic Errors"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Instruments and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection), 1972, vyp. 24, pp 103-107 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V452)

Translation: A study was made of the method of analog-to-digital transformation which can be realized in information-measuring devices. For a significant reduction (exclusion) of systematic measurement errors, an information channel is introduced into the block diagram of the converter which permits the code of a standard value in its physical essence an adequate unknown, to be received. On the basis of the analysis of the accuracy of the proposed method of analog-digital transformation, recommendations are made for selection of the optimal ratio of the unknown and the standard variables.

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1/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--EFFECT OF THE COMPOSITION OF LIMESTONES ON THE QUALITY OF MILK OF LIME IN THE PRODUCTION OF MAGNESIUM OXIDE FROM SEA BRINE -U-

AUTHOR-(04)-GURCHINOVA, L.N., SAVENKOV, M.I., KIRICHENKO, T.P., IVANOVA, G.M.

COUNTRY OF INFO--USSR

SOURCE--OGNEUPORY 1970, 35(2), 15-17

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--LIMESTONE, MAGNESIUM OXIDE, SEA WATER, BRINE, LIME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0880 STEP NO--UR/0131/70/035/002/0015/0017

CIRC ACCESSION NO--AP0118049

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118049

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY WAS DETD. OF USING LIMESTONES OF VARIOUS QUALITIES FOR PRODUCING MGO FROM BRINES. QUALITY AND YIELD OF PURIFIED PRODUCT DEPEND PRIMARILY ON THE MINERAL AND CHEM. COMPNS. OF THE LIMESTONES AND DEGREE OF CALCINATION. THE QUALITY OF MILK OF LIME FROM GANGUE LOADED MATERIALS CAN BE INCREASED BY A 2 STAGE TREATMENT OF THE MILK OF LIME THROUGH HYDROCYCLONES AFTER INITIAL SAND REMOVAL. FACILITY: UKR. NAUCH.-ISSLED. INST. OGNEVPOR. KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 615.471:615.844

SUKONKINA, Ye. A., TSIKHON, V. N., and KIRICHENKO, V. G., All Union Scientific Research Institute of Medical Instrument Building, Moscow

"Apparatus for Treatment With Diadynamic Currents "Tonus-1"

Moscow, Meditsinskaya Tekhnika, No 5, Sep/Oct 73, pp 59-62

Abstract: A new model for treatment with diadynamic currents has been developed -- Tonus-1 -- with the goal of producing a simple, utilitarian and safe unit. Tonus-1 produces 9 types of diadynamic currents. Maximum protection of the patient is one of the strong points of Tonus-1.

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USSR

UDC 541.183.5

KOGANOVSKIY, A. M., LEVCHENKO, T. M., KIRICHENKO, V. A., Institute of Colloidal and Water Chemistry, Academy of Sciences Ukrainian SSR

"Procedure for Calculating the Magnitudes of the Standard Decrease in Free Energy of Adsorption on Activated Charcoal from Aqueous Solutions"

Kiev, Ukrainskiy Kimicheskiy Zhurnal, Vol XXXVII, No 5, 1971, pp 506-507

Abstract: Two methods of calculating the concentrations of the substance in the adsorption layer were investigated. The methods are based on determining the specific surface of the adsorbent and the volume of the micropores. The variation of the magnitude of $\lg C_{ads}/C_{equil}$ is plotted as a function of C_{equil} for adsorption of benzene, phenol and analine on activated charcoal from aqueous solutions with respect to the magnitude of the specific surface and the volume of the micropores, where C_{ads} is the concentration of substance in the adsorption layer of the activated charcoal. The advantage of the first method over the second is that when calculating the surface concentration by the first method, in addition to the experimentally defined magnitude of the specific adsorption, it is necessary to know only the area occupied by a molecule of the substance in the adsorption layer which is found by a projection of the molecule on the plane executed considering the van der Waals

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USSR

KOGANOVSKIY, A. M., et al., Ukrainskiy Kimicheskiy Zhurnal, Vol XXXVII, No 5, 1971, pp 506-507

radii of the atoms. By the second method it is necessary precisely to know the specific weight of the solid substances at their melting point.

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USSR 12 UDC: 541.183.5

KOGANOVSKIY, A. M., LEVCHENKO, T. M., and KIRICHENKO, V. A., Institute of Colloidal Chemistry and Chemistry of Water, Academy of Sciences USSR

"Adsorption of Heterocyclic Compounds on Carbon Adsorbents From Water Solutions"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol 36, No 4, Apr 1970, pp 339-342

Abstract: The authors studied adsorption of pyrazolones on ashless carbon KAD with specific surface area of 670 m^2/g, and report the adsorption isotherms obtained, from which they conclude that pyrazolone molecules orient themselves by the planes of both rings parallel to the phase separation surface. The values for standard decrease of the free energy of pyrazolone adsorption and their increments per pyrazolone ring have been calculated: for pyrazolone ring it amounts to +0.13 Kcal/mole, for the antipyrine ring -- -1.05 Kcal/mole. The low values of these increments are judged to be due to a shift of the electron density and appearance of charges in case of the antipyrine ring, this being supported by its higher solubility in water (340 g/l at 20°).

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Acc. Nr.: AP0029511 Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 1, pp 66-71

DETERMINATION OF ABSORBED DOSES IN A TRACHEA MODEL WITH RADON-CONTAINING ATMOSPHERE AT A POLYMETAL MINE

V. N. Kirichenko, V. D. Ivanov

By means of a specially elaborated method and an apparatus there were measured doses of α-radiations of short-life daughter products of radon on the internal surface of a trachea model in various parts of polymetal mines. Simultaneously the level of «latent» energy and the content of «free» radium atoms in the atmosphere were supervised. The doses determined in the models correlated sufficiently with the content of «free» atoms. However, no definite relation could be traced between the doses in the model and the level of «latent» energy.

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KIRICHENKO V.N.

Acc. Nr: AP0044023 Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 2, pp 52-56

EXPERIMENTAL STUDY OF SHORT-LIVING DAUGHTER PRODUCTS OF RADON IN THE RESPIRATORY TRACT

V. N. Kirichenko, Dzh. G. Khachirov, S. A. Dubrovin, Klyuch, V. Ye.; Bykhovskiy, A. V.

One should know the nature of the isotopes distribution in order to asses the dosage load on basal cells of the bronchial epithelium in different lengths of the respiratory tract following inhalation of radon and of its daughter products. Experimental investigations carried out with the aid of a specially elaborated method of direct alpha-spectrometry of the preparations helped to clear up the nature of the radon daughter products distribution in the mucosa of bronchial epithelium of dogs and rabbits. These data enable dosage loads on the basal cells of the bronchial epithelium to be measured more exactly when the air containing RaA, RaB, RaC and RaC' isotopes is inhaled by experimental animals.

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19770460

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UDC 536.24:536.42

KIRICHENKO, YU. A., CHARKIN, A. I., DOLGOY, M. L.

"Study of the Dynamics of Vapor Bubbles under the Conditions of Simulating Weak Gravitational Fields"

Tr. Fiz.-tekh. in-t nizk. temperatur AN USSR (Works of the Physico-Technical Low-Temperature Institute of the Ukrainian SSR Academy of Sciences), 1970, vyp. 1, pp 184-196 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11B686)

Translation: A kinematographic study was made of the dynamics of vapor bubbles when boiling liquid oxygen and diethyl ether under the conditions of simulating weak mass force fields. The simulation was carried out under laboratory conditions by two procedures developed at the Physico-technical Low-Temperature Institute of the Ukrainian SSR Academy of Sciences: the method of "suspending" the liquid paramagnetic substance -- oxygen -- in a nonuniform magnetic field and the method of expanding the gravitational force in components in thin inclined containers. The relations were obtained for the separating diameter, the separating frequency, the growth rate and the rate of ascent of the vapor bubbles as a function of the simulated gravitational acceleration. The bibliography has 20 entries.

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USSR UDC 536.24:536.42

KIRICHENKO, YU. A., SOLYANKO, V. F., TSYBUL'SKIY, V. V., YAKOVLEV, YE. V.

"Device for Studying Heat Exchange when Boiling Cryogenic Liquids"

Tr. Fiz.-tekhn. in-t nizk. temperatur AN USSR (Works of the Physico-Technical Low-Temperature Institute of the Ukrainian SSR Academy of Sciences), 1970, vyp. 1, pp 255-264 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11B689)

Translation: A device permitting the study of a broad class of heat exchange problems during boiling and investigation of heat exchange during boiling of both pure oxygen and oxygen containing a dissolved gas in the temperature range of 65-120° K and at pressures of 0.025-10 absolute atmospheres insuring visual observation and movie photography of the processes taking place is described. The device comprises an operating vessel of 5 liter capacity surrounded by three shells forming buffer, thermostating and vacuum tanks, successively. The vacuum tank and the thermostating tank filled with liquid nitrogen form a special type of dewar protecting the operating vessel from external heat fluxes and insuring the required temperature level of the liquid in the working vessel by pumping nitrogen vapor out of the thermostating tank. Cooling the gas fed to the working vessel and dissolving it in a liquid are carried out by means of a bubbling and circulating system placed in the thermostating and vacuum tanks. The buffer

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KIRICHENKO, YU. A., et al., Tr. Fiz.-tekhn. in-t nizk. temperatur AN USSR, 1970, vyp. 1, pp 255-264

tank separates the working vessel from the thermostating vessel and can be evacuated or filled with the heat exchange gas. The working vessel and the shells of all the surrounding tanks are equipped with peepholes with flat glass.

Preliminary heat exchange data for the boiling of liquid nitrogen from a horizontal tubular steel heater were obtained on the device. The design of the device permits studies to be performed during boiling not only of oxygen but also a number of other cryogenic liquids. The bibliography has 10 entries.

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1/2 039 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--BOILING IN FLAT INCLINED CONTAINERS SIMULATING WEAK GRAVITATIONAL FIELDS -U-
AUTHOR-(02)-KIRICHENKO, YU.A., DOLGOY, M.L.

COUNTRY OF INFO--USSR

SOURCE--TEPLOFIZ. VYS. TEMP. 1970, 8(1), 130-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--BOILING, ARTIFICIAL GRAVITY, WEIGHTLESSNESS, CONVECTIVE HEAT TRANSFER, HEAT TRANSFER COEFFICIENT, WATER, ETHANOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0933 STEP NO--UR/0294/70/008/001/0130/0135

CIRC ACCESSION NO--AP0107462
UNCLASSIFIED

2/2 039 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107462

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDIES WERE CARRIED OUT UNDER REDUCED GRAVITY DOWN TO WEIGHTLESSNESS ON BUBBLE AND BOILING FILM HEAT TRANSFER OF H SUB2 O, ETOH, AND ET SUB2 O. LONG DURATION EXPTS. YIELDED CRIT. HEAT FLOWS AND HEAT TRANSFER COEFFS. AS FUNCTIONS OF GRAVITY FORCE. FACILITY: FIZ.-TEKH. INST. NIZKIKH TEMP., KHARKOV, USSR.

UNCLASSIFIED

AA0044809

Soviet Inventions Illustrated, Section II Electrical, Derwent, UR 0482

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243874 ELECTRORECORDING MOVEMENT OF A TWO-PHASE MEDIUM, involves using an electrorecorder of movement of two distinctly different materials e.g. pulverulent materials and gas-liquid mixtures in pipes. The device contains three plates two of which are placed parallel to the direction of flow and between themselves, while the third plate is mounted between the above two at an angle inclined to the direction of flow, thus forming a symmetrical differential condenser. One half of the condenser's wide part is directed in the line of flow. The recorder consists of a dielectric

AUTHORS: Rudnyy, N. M.; Kirichenko, Yu. Ya.

Institut Avtomatiki

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pipe line 1, two outside plates 2, inner plate 3 and an electric screen 4. The two similar plates are mounted on the dielectric pipe line symmetrically to one another. The third is at an angle between the two plates. The differential recorder is connected to a branch of the A/C the lead off of which is connected to the measuring voltage through the A/C booster. When the pulverulent mixture starts moving the inner plate divides the mass in two unequal parts with the result that in one of the condenser recorders receives more of the sandy mixture than the other, unbalancing the A/C bridge and causing the appearance of a signal, the intensity of which is related to the difference in volume of mixture passing through each opening of the pipe line.

2.3.67 as 1139485/18-10.N.M.RUDNYI & YU.E.KIRICHENKO AUTOMATION INST. (6.10.69.) Bul 17/14.5.69. Class 42e Int.Cl.G 01f.

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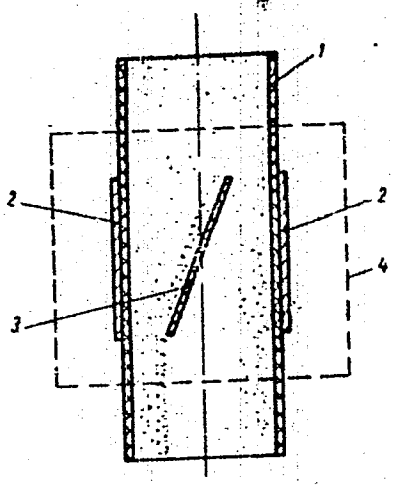

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19771655

Computers: Digital

USSR UDC: 681.325.5

KIRICHENKO, Z. M., CHADOV, A. N., Institute of Cybernetics, Academy of Sciences of the UkrSSR

"An Asynchronous Combination Adder"

USSR Author's Certificate No 299415, filed 17 Oct 69, published 3 Feb 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B368 P)

Translation: Asynchronous combination adders are known which contain a unit for forming bit-by-bit mod-2 sums, a unit for propagating carries and non-carries, and a unit for obtaining the complete sum. As a distinguishing feature of the proposed patent, the adder contains a unit for analyzing the bit-by-bit mod-2 sums which contains k + 1 AND-NOT elements (k is the number of sections in the adder). The inputs of k AND-NOT elements are connected to the outputs of the unit for forming the bit-by-bit mod-2 sums, while the outputs of these k elements are connected to the inputs of the (k + 1)-th element, the output of this AND-OR element being connected to the input of the control unit. This increases the speed and improves the reliability of the adder. In contrast

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USSR

KIRICHENKO, Z. M., CHADOV, A. N., Soviet Patent No 299415

to the conventional circuit, the proposed device does not determine the moment of completion of carries but rather the duration of propagation of carries with respect to the state of the circuits for bit-by-bit mod-2 addition, which are in the static state throughout the period of cascaded carry. Information on the duration of propagation of carries is transmitted to the control device, which generates an addition completion signal ($П_{ЗН}Σ$) in accordance with this information. One illustration.

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UDC 539.3

VAYNBERG, D. V., SAKHAROV, A. S., KIRICHEVSKIY, V. V.

"Derivation of the Matrix for the Rigidity Characteristics of a Discrete Element of Arbitrary Shape"

Soprotivl. materialov i teoriya sooruzh. Resp. mezhved. nauch. sb. (Resistance of Materials in the Theory of Structures. Republic Interdepartmental Scientific Collection), 1971, No. 14, pp 37-44 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V166)

Translation: The solution of the three-dimensional problem of elasticity theory and the problem of the bending of plates and shells is solved using the method of a discrete element of arbitrary shape referred to a system of curvilinear (not orthogonal in the general case) coordinates (x^i, i = 1, 2, 3) characterized by a metric covariant tensor $g_{ik}(x^i)$. The resolvents are obtained and used to study the stress-deformation state of plates and shells without the use of the Kirchoff-Love hypothesis. The derivation is presented in tensor form for linearly elastic working of the material. 7 ref. Authors' abstract.

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USSR

BARABOY, V. A., and KIRICHINSKIY, B. R.

Yadernyye Izlucheniya i Zhizn' (Nuclear Radiation and Life), Moscow, Nauka Press, 1972, 232 pp

Translation: The authors of this book acquaint the readers with the achievements of a comparatively young science (radiobiology). In the book a study is made of the role of nuclear radiation and the evolution of life on earth, the effect of this type of radiation on living organisms, artificial radioactivity and procedures for obtaining atomic power. The authors have given special attention to peaceful uses of atomic energy in medicine, agriculture, industry and space research.

The book is designed for a broad class of readers interested in the achievements of Soviet science.

Contents

USSR

BARABOY, V. A., and KIRICHINSKIY, B. R., Yadernyye Izlucheniya i Zhizn', Moscow, Nauka Press, 1972, 232 pp

Public Health, Hygiene and Sanitation

USSR UDC 621.373.826:57

KIRICHINSKIY, B. R., SHEPELEV, V. N., MEDVEDOVSKAYA, TS. P., LYSINA, G. G., LOGANOVSKIY, N. G., SOLETSKAYA, A. S., VOL'FOVSKAYA, R. KH.

"Effect of Laser Emission on the Organism of Industrial Workers"

V sb. Ispol'z. optich. kvant. generatorov v sovrem. tekhn. i med. Ch. 2-3 (Utilization of Lasers in Modern Engineering and Medicine. Parts 2-3 -- collec- of works), Leningrad, 1971, pp 108-110 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D651)

Translation: A report is presented on examination of 40 people working 3.4 years on the average with laser emission (200-200 bursts per week with a pulse duration of 20-40 nanoseconds and an energy of 1-10 joules and up to 1 joule in the continuous mode). It was calculated that the radiation level on the cornea was $5 \cdot 10^{-6}$-$5 \cdot 10^{-7}$ joules, which is approximately 2 orders higher than the levels which the majority of authors recommend as the maximum allowable and approaches the threshold values (causing minimum damage to the retina). For people with low seniority, pronounced shifts in autonomic vascular regulation was often detected with some lowering of visual function and liability of composition of peripheral blood. This has the nature of functional-dynamic shifts.

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USSR

CHEBOTAR'OV, E. Yu., Doctor of Medical Sciences, GRODZINS'KIY, D. M., Doctor of Biological Sciences, BARABOY, V. A., Candidate of Medical Sciences, and KIRICHINS'KIY, O. R., Candidate of Legal Sciences

"Radiobiology in the Ukraine"

Kiev, Vestnik Akademii Nauk Ukrainskoy SSR, No 9, Sep 70, pp 46-52

Abstract: A survey is presented of the leading Ukrainian research institutes and the achievements of the major Ukrainian scientists. Ukrainian radiobiologists are conducting a wide variety of investigations on a high scientific and methodological level. Fundamental contributions are being made to such important problems as the biological effects of fast neutrons; mechanisms of radioprotection of animals and plants; repair of lesions caused by radiation; migration, incorporation, and effects of natural and artificial radioactive isotopes; and primary mechanisms of the injurious effects of ionizing radiation on biopolymers, mainly proteins. Extensive use is being made of radiospectroscopy, X-ray diffraction analysis, gas chromatography, and physicochemical studies of model systems.

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USSR

UDC 539.3

KARNAUKHOV, V. G., KIRICHOK, I. F., Institute of Mechanics, Academy of Sciences, Ukrainian SSR (Kiev)

"Concerning the Theory of Plates Subjected to Finite Initial Deformations"

Kiev, Prikladnaya Mekhanika, Vol 6, No 12, Dec 70, pp 82-91

Abstract: On the basis of equations of the three-dimensional theory of small elastic deformations, superposed upon finite elastic deformations, refined equations of plates undergoing finite initial deformations are obtained. It is assumed that the tangential stresses with respect to plate thickness change according to an arbitrary given law. With account taken of the derived equations, the problem of the stability of a rectangular plate compressed in its plane in two mutually perpendicular directions is solved. A comparison is made with the results of solving the problem with shifts not taken into account. An estimate is given of the accuracy of the proposed theory. Results are obtained for materials of the neo-Hook type. 3 figures, 5 bibliographic entries.
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1/2 037 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DYNAMICS OF THIN ELASTIC SHELLS WITH INITIAL STRESSES -U-

AUTHOR--KIRICHOK, I.F.

COUNTRY OF INFO--USSR

SOURCE--PRIKLADNAIA MEKHANIKA, VOL. 6, MAR. 1970, P. 16-24

DATE PUBLISHED----MAR70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PHYSICS

TOPIC TAGS--CYLINDRIC SHELL STRUCTURE, THERMAL STRESS, LINEAR EQUATION, NONLINEAR EQUATION, PERTURBATION, MOTION EQUATION, THIN SHELL STRUCTURE, ELASTICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/0863 STEP NO--UR/0198/70/006/000/0016/0024

CIRC ACCESSION NO--AP0116373

UNCLASSIFIED

2/2 037 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116373

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. APPLICATION OF THE OSTROGRADSKII HAMILTON PRINCIPLE TO THE DERIVATION OF THE GENERAL NONLINEAR EQUATIONS AND BOUNDARY CONDITIONS FOR THIN ELASTIC SHELLS. THE ANALYSIS IS PERFORMED WITHIN THE FRAMEWORK OF NONLINEAR ELASTICITY THEORY. APPLICATION OF THESE EQUATIONS TO EQUILIBRIUM SHELLS IN THE PRESENCE OF INITIAL STRESSES AND SMALL PERTURBATIONS LEADS TO LINEARIZED EQUATIONS OF MOTION AND BOUNDARY CONDITIONS FOR SHELLS WITH INITIAL STRESSES. THE INFLUENCE OF INITIAL THERMAL STRESSES ON THE NATURAL OSCILLATION FREQUENCIES OF CYLINDRICAL SHELLS IS ANALYZED. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, INSTITUT MEKHANIKI, KIEV, UKRAINIAN SSR.

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UDC 620.171.32:669.295:669.015.4

KIDIN, I. N., MEDVEDEV, V. V., and KIRIDONOV, E. M., Moscow Institute of Steel and Alloys

"The Effect of Heating Rate on the Mechanical Properties of Cold-Deformed Titanium"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 9, 1970, pp 135-136

Abstract: The mechanical properties of cold-deformed VT1-0 titanium were studied under conditions of a continuous high rate of heating and under isothermic conditions after a high rate of heating. Samples of special form and dimensions were made of 0.2 mm thick sheet metal. Experimental and measuring techniques are briefly described. The results show that in a time interval of 1-200 sec before failure, the short-time heat resistance depends substantially on the heating rate. Temperatures for achieving plastic deformations of 0.2%, 0.5%, etc., are higher, the greater the rate of continuous heating.

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USSR

KIRIK, E. G.

"Increasing the Effectiveness of an Algorithm for Automatic Composition of a Word List and Concordance"

Izbr. Tr. Vses. Mezhvuz. Simpoz. po Prikl. Mat. i Kibernet., Gor'kiy, 1967 [Selected Works of All-Union Interuniversity Symposium on Applied Mathematics and Cybernetics, Gor'kiy, 1967], Moscow, Nauka Press, 1973, pp 369-372 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V769, by the author).

Translation: A method is suggested for simultaneous composition of a frequency dictionary and concordance. In order to increase the effectiveness of the process, the input text is represented as a set of nonintersecting classes according to a forced set of characteristics (determined by the style selected). The problem of optimization of time function T necessary for exchange of information between the main memory and peripheral storage is studied. In order to find the expression for function T, the text is interpreted as a sample with recall from a certain general set containing n different elements (n is the expected length of the dictionary).

UDC: 621.396.74

USSR

BOMSHTEYN, B. D., BORISOV, A. S., KIRIK, G. A.

"Signal-to-Noise Ratio in Primary Wide-Band Channels Made up of n Transducer Sections"

Sb. nauch. tr. TsNII svyazi (Collected Scientific Works of the Central Scientific Research Institute of Communications), 1971, vyp. 1, pp 16-23 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3A18)

Translation: The authors examine a procedure for determining the numerical characteristics of distribution of the signal-to-noise ratio for communications channels consisting of n transducer sections from the known numerical characteristics of the distribution function of interference in the channel comprised of a single transducer section. Resumé.

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USSR UDC: 539.4:624.011

KIRIKOV, B. A.

"Evaluation of the Probability of Fatigue Weakening of Structural Elements Subjected to Seismic Effects"

Tr. TsNII stroit. konstruktsiy (Works of the Central Scientific Research Institute of Structural Elements), 1970, vyp. 14, pp 187-193 (from RZh--Mekhanika, No 7, Jul 71, abstract No 7V864)

Translation: A method is proposed for evaluating the reliability of frame systems subjected to a small number of loads during seismic activity. It is assumed that the complete fatigue curve for the material of the structural element is known together with the characteristics of a quasistationary random process with normal distribution law. The spectral density of acceleration of the seismic action as well as the spectral density and change of variance of displacement of the systems are determined from the expressions for the spectral density and the correlation function of displacement of the base of the structure. An expression for the probability density function of bending moments in the columns of the framework system is derived by using a linear hypothesis of accumulation of fatigue damage. The fatigue curve is broken up into a number of confidence intervals. Reliability is evaluated by comparing the probability of failure of the structure by the end of the rated service life with the norm. L. Sh. Kilimnik.

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USSR UDC 621.372.8

KIRILENKO, A. A., MASALOV, S. A., Institute of Radio Physics and Electronics of the Ukrainian SSR Academy of Sciences

"Diffraction of H-Polarized Waves on a Louver-Type Ribbon Array"

Gor'kiy, Izvestiya vysshikh uchevnykh zavedeniy, Radiofizika, Vol XV, No 1, 1972, pp 83-97

Abstract: The problem of diffraction of plane waves on a periodic structure made up of infinitely thin ideally conducting strips the planes of which form an arbitrary angle ψ with the normal to the plane of the array is investigated by the semiinversion method. A detailed analytical and numerical study was made of the characteristics of the scattered field, and special attention was given to the resonance properties of the array.

The method used is essentially based on the results of previous papers [S. A. Masalov, et al., Zhurn. vychisl. matem. i matem. fiz., Vol 9, No 4, 693, 1970; E. A. Whitehead, Proc. IEE, Vol 98, No 3, 133, 1951]. It leads to systems analogous to the systems of A. A. Kirilenko, et al. [Mezhved. sb. Radiotekhnika, Khar'kov State University, Khar'kov, No 13, 15, 1970]. The case of H-polarization is investigated. With evaluation of the error, the solution of the problem is obtained in the form of simple analytical formulas. The long

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201320017-3"

USSR

KIRILENKO, A. A., et al., Izvestiya vysshikh uchevnykh zavedeniy, Radiofizika, Vol XV, No 1, 1972, pp 83-97

wave asymptotic form of the solution is found, and resonance phenomena occurring in this type of structure are detected and explained.

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1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--OBITUARY -U-

AUTHOR-(04)-BREZHNEV, L.I., VORONOV, G.I., KIRILENKO, A.P., KOSYGIN, A.N.

COUNTRY OF INFO--USSR

SOURCE--SOVETSKAYA ROSSIYA, JUNE 30, 1970, P 3, COLS 1-2

DATE PUBLISHED--30JUN70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY, BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--BIOPHYSICS, PHARMACOLOGY, BIOCHEMICAL PERSONNEL, CHEMICAL PERSONNEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0086 STEP NO--UR/9022/70/000/000/0003/0003

CIRC ACCESSION NO--AN0113064

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0113064

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACADEMICIAN MIKHAIL MIKHAYLOVICH SHEMYAKIN, BORN IN 1908, HAS SUDDENLY DIED. THE OUTSTANDING SOVIET CHEMIST WAS ELECTED CORRESPONDING MEMBER OF THE ACADEMY OF SCIENCES, U.S.S.R. IN 1953. IN 1958 HE WAS ELECTED ACTIVE MEMBER OF THE ACADEMY. SHEMYAKIN WAS THE ORGANIZER AND THE DIRECTOR OF THE INSTITUTE OF CHEMISTRY OF NATURAL COMPOUNDS, MEMBER OF THE PRESIDIUM OF THE ACADEMY, SECRETARY OF THE DEPARTMENT OF BIOCHEMISTRY, BIOPHYSICS AND CHEMISTRY OF PHYSIOLOGICALLY ACTIVE COMPOUNDS OF THE SOVIET ACADEMY OF SCIENCES. SHEMYAKIN ALSO TAUGHT AT THE MOSCOW INSTITUTE OF FINE CHEMICAL TECHNOLOGY AND THE MOSCOW TEXTILE INSTITUTE.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PHASE DIAGRAM OF AS SUB2 X SUB3 AND ASI SUB3 (X IS SULFUR, SELENIUM) -U-

AUTHOR-(03)-CHERNOV, A.P., DEMBOVSKIY, S.A., KIRILENKO, I.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 262-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, PHYSICAL CHEMISTRY PROPERTY, EUTECTIC MIXTURE, SELENIUM COMPOUND, ARSENATE, IODIDE, SULFIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0560 STEP NO--UR/0363/70/006/002/0262/0265

CIRC ACCESSION NO--AP0105545

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105545

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING PHYS. CHEM. ANAL. METHODS, THE PHASE DIAGRAMS OF THESE SYSTEMS WERE PLOTTED. IN BOTH SYSTEMS, THE EXISTENCE OF THE CHEM. COMPD. OF COMPN. ASXI WAS CONFIRMED. THE EUTECTIC NATURE OF REACTION IN THE INDIVIDUAL AS SUB2 X SUB3NEGATIVE ASXI AND ASXI-ASI SUB3 SYSTEMS WAS ESTABLISHED; THERE IS A LIQ. PHASE SEPN. REGION IN THE AS SUB2 SE SUB3NEGATIVE ASI SUB3 SYSTEM.

UNCLASSIFIED

2/3 062 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132702

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A LABORATORY STUDY WAS MADE TO DETERMINE THE CHARACTERISTICS OF RELIABILITY OF A MAN OPERATOR FOR INVESTIGATING THE DEGREE OF DECREASE IN THE PERFORMANCE OF AN OPERATOR INCLUDED IN A CONTROL SYSTEM DURING PROLONGED THRESHOLD AND SUPERTHRESHOLD STIMULI OF THE VESTIBULAR AND VISUAL ANALYZERS. AS THE ADEQUATE STIMULUS THE AUTHORS SELECTED AN ANGULAR ACCELERATION CREATED ON A SPECIAL ROTATING SEAT WITH HYDRAULIC DRIVE AND A PROGRAMMED CONTROL DEVICE. THERE WAS A CONSTANT ANGULAR ACCELERATION OF 24DEGREES-SEC PRIME2; ROTATION OF THE SEAT WAS TO THE RIGHT AND LEFT TO ANGULAR VELOCITIES OF 360DEGREES-SEC. THIS PROGRAM FOR ROTATION OF THE SEAT ENSURED APPEARANCE OF POSITIVE AND NEGATIVE ACCELERATIONS. THE TIME FOR ONE CYCLE OF GAINING AND LOSING ROTATION VELOCITY WAS 37 SEC. THE AVERAGE TIME OF ONE SEAT ROTATION WAS 2 /SEC. OPTOKINETIC STIMULI WERE CREATED BY LIGHT BANDS MOVING ON A SCREEN WITH A VELOCITY OF 160 BANDS-MIN AND SITUATED AT THE SUBJECT'S EYE LEVEL. THE SYSTEM FOR CONTROL OF CHAIR ROTATION MADE IT POSSIBLE TO CHANGE THE PROGRAM FOR MODIFYING THESE STIMULI IN THREE REGIMES: EXPOSURE ONLY TO A VESTIBULAR STIMULUS (CONTROL REGIME); COPHASED EFFECT OF VESTIBULAR AND OPTOKINETIC STIMULI (SUMMATION REGIME); ANTIPHASE EFFECT OF STIMULI (INTERFERENCE REGIME). THE SUBJECTS WERE MALES AGES 21-23. IT WAS ESTABLISHED THAT DURING PROLONGED OPTOKINETIC AND VESTIBULAR EXPOSURES, CLOSE TO THRESHOLD, THE DISTRIBUTION LAW FOR OPERATORS CONFORMS TO A TRUNCATED NORMAL LOW. THE RELIABILITY OF AN OPERATOR'S PERFORMANCE IN THE REGIME OF SUMMATION OF STIMULI IS CONSIDERABLE LOWER THAN IN A CONTROL REGIME AND IN AN INTERFERENCE REGIME.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201320017-3"

3/3 062 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132702

ABSTRACT/EXTRACT--ACCORDINGLY, IF THE ALGEBRAIC SUM OF EXTERNAL STIMULI IS CHANGED, IT IS POSSIBLE TO INCREASE OR REDUCE THE RELIABILITY OF THE OPERATORS. THE EFFECT OF OPTOKINETIC AND VESTIBULAR FACTORS IS REFLECTED IN THE QUALITY OF SURVEILLANCE. FOR EXAMPLE, IN A SUMMATION REGIME, DESPITE INDIVIDUAL PECULIARITIES IN THE REACTION OF EACH OPERATOR TO EXPOSURE TO STIMULI, THE QUALITY OF SURVEILLANCE IS POORER THAN IN OTHER REGIMES. IT WAS POSSIBLE TO DETERMINE THE LAW OF DISTRIBUTION OF THE TIME OF RESTORATION OF OPERATOR WORK CAPACITY. THIS RESTORATION CONFORMS TO THE LAW SHOWN ON MICROFICHE. HERE T IS THE TIME CONSTANT OF RESTORATION OF OPERATOR PERFORMANCE. THE RESTORATION OF PERFORMANCE OF OPERATORS AFTER EXPOSURE TO STIMULI IN A SUMMATION REGIME TRANSPIRES CONSIDERABLE MORE SLOWLY THAN IN OTHER REGIMES. IT WAS ESTABLISHED IN EXPERIMENTS THAT THE RESTORATION TIME CONSTANTS HAVE THE FOLLOWING VALUES: SUMMATION REGIME, 1.25 SEC, CONTROL REGIME, 1.10 SEC, INTERFERENCE REGIME.

UNCLASSIFIED

USSR UDC 677.4:54-171:539.16.04

STARKOVA, A. N., KIRILENKO, YU. K., SHAPIRO, YE. I., YEOS, A. I., VOL'F, L. A., VISHNYAKOVA, T. P., VLASOVA, I. D., PANCHENKOV, G. M., and KAUCHANSKIY, D. A.

"Radiation Resistant Polyamide Fiber"

Leningrad, Radiokhimiya, Vol 13, No 5, 1971, pp 785-786

Abstract: An attempt was made to increase the resistance of polyamide fiber towards γ-radiation by treating it with ferrocene containing compounds. Caprone cord fiber was treated with ferrocenealdehyde (FCA) under following conditions: FCA - 3%; catalyst - 6.5% H_3PO_4; temperature - 75°C; duration - 2 hrs; solvent - ethanol. The fiber obtained was more resistant to thermo-oxidative destruction than the starting material: after heating for 2 hrs at 200°, the modified fiber retained 60-70% of the initial strength, while the starting material dropped down to 25%. The modified fiber was found to posses high adhesiveness towards the resin; it can be used in production of hoses, conveyor belts, driving belts, etc, performing under radiation.

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USSR

UDC 678.675:542.949

STARKOVA, A. N., SHAPIRO, Ye. I., KIRILENKO, Yu. K., MEOS, A. I., VOL'F, L. A., VISHNYAKOVA, T. P., and ZUMMEROV, S. R., Leningrad Institute of the Textile and Light Industries imeni S. M. Kirov, and Moscow Institute of the Petrochemical and Gas Industries imeni I. M. Gubkin

"Modification of Capron Fiber With Ferrocenaldehyde"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 447-449

Abstract: One of the basic weaknesses of polyamide fibers is low heat-resistance. Chemical methods for remedying this weakness (based mostly on processing with bifunctional compounds and formaldehyde to form intermolecular cross-links in the polymer), but almost nothing has been published on the use of other monoaldehydes which might act as modifying agents to strengthen the resistance of polyamides to thermo-oxidative destruction. The authors studied ferrocenaldehyde (FCA) as a modifier, in the case of the fiber Capron. Phosphoric acid was used to increase reactivity of the aldehyde groups; this acid reacts only slightly with Capron, and not at all with ferrocenaldehyde. Ethanol was the solvent used. It was found that treatment of Capron with FCA substantially increases the heat-resistance of this fiber. This is explained

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USSR

STARKOVA, A. N., et al., Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 447-449

on the basis of decreased concentration of free terminal amino groups during their blocking by an aromatic compound of FCA type, as is suggested by other published data. Graphic data are given on the strength, elongation and thermal properties of Capron, as these are affected by concentrations of FCA and H_3PO_4, and by heating.

USSR

UDC 677.494.72

SLATINA, S. D., KIRILENKO, Yu. K., VOL'F, L. A., MEOS, A. I., KLIMENKO, I. B., GRACHEV, V. I., VISHNYAKOVA, T. P., and VLASOVA, I. D., Leningrad Institute of the Textile and Light Industries imeni S. M. Kirov, and Moscow Institute of the Petrochemical and Gas Industries imeni I. M. Gubkin

"Polyvinyl Fabrics Modified With Ferrocene-Containing Compounds"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 446-447

Abstract: Heteroorganic compounds are already widely used as modifiers of chemical fibers, and specific methods are known for imparting desired properties to fibers by the use of silicon- and boron-containing compounds. However, the use of ferrocene-containing compounds in this way has not been described, although these compounds impart a number of valuable properties to polymers, notably resistance to heat and radiation. Ferrocene-containing compounds are of further interest in having possible biological effects, including an effect on blood-formation. Polyvinyl alcohol (PVA) fiber was treated with 1,1-diacetylferrocene-formaldehyde (DAFF) resin, obtained by condensation polymerization with formaldehyde in the presence of Na_2CO_3 in ethanol. The freshly formed fiber was submerged for 1-5 minutes in 5-20% solutions of the resin, then heated at 140-180° for 10-20 minutes.
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USSR

SLATINA, S. D., Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 446-447

The fiber became resistant to the effect of hot water. Apparently, in the fiber-resin reaction there was condensation of the PVA hydroxyl groups with the resin methyl groups, so that simple ester bonds were formed between the two polymers; this was confirmed by comparison of the number of hydroxyl groups in the initial fiber, the resin-processed fiber, and the heated resin, and also by infrared data. Graphic data accompany the paper.

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MODIFICATION OF DEHYDRATED POLYVINYL ALCOHOL BY SCHIFF BASES -U-

AUTHOR-(04)-GABDUVALIYEVA, A.K., KIRILENKO, YU.K., VOLF, L.A., MEOS, A.I.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 227-30

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYVINYL ALCOHOL FIBER, SCHIFF BASE, AZO COMPOUND, CHEMICAL STABILITY, ION EXCHANGE, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1677 STEP NO--UR/0460/70/012/003/0227/0230

CIRC ACCESSION NO--AP0125298

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125298
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEVERAL SCHIFF BASES, CONTG. C:C BONDS, WERE PREPD. BY CONDENSATION OF CH SUB2:CHCH SUB2 NH SUB2 WITH BZH OR ITS DERIVS. THE PHYS. PROPERTIES OF THE UNSATD. AZOMETHINES ARE TABULATED. ALLYL SCHIFF BASES ALSO REACTED WITH PARTIALLY DEHYDRATED POLY(VINYL ALC.) (I) FIBERS IN HCONME SUB2. THE MODIFIED I FIBERS EXHIBITED GOOD PHYSICOMECH. PROPERTIES, HIGH CHEM. STABILITY, AND ION EXCHANGE CAPACITY. A PROBABLE REACTION MECHANISM IS PROPOSED.
FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--THE PROPERTIES OF TWO STRAINS PSEUDOMONAS, UTILIZING ONE CARBON COMPOUNDS -U-
AUTHOR--KIRIKOVA, N.N.

K

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 18-23

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PSEUDOMONAS, CULTURE MEDIUM, METHANOL, METHYLAMINE, DNA, AMINO ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1732 STEP NO--UR/0220/70/039/001/0018/0023

CIRC ACCESSION NO--AP0109693
ZZZZZZZZZZZZ UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0109693

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPERTIES OF BACTERIAL STRAINS, BELONGING TO THE PSEUDOMONAS GENUS AND GROWING ON MEDIA WITH ONE CARBON COMPOUNDS, WERE STUDIED ON PURE CULTURES. THE FIRST STRAIN, UTILIZING FORMIATE, WAS SIMILAR TO PS. FLUORESCENS. THE SECOND STRAIN, GROWING ON MEDIA WITH METHANOL, FORMIATE AND METHYLAMINE, WAS SIMILAR TO PSEUDOMONAS SP. M-27. THESE BACTERIAL CULTURES WERE OF RED COLOUR DUE TO CAROTENOIDS. G PLUS C CONTENT (PERCENT MI IN DNA WAS 65.8. BESIDES ONE CARBON COMPOUNDS BOTH STRAINS GREW ON MEDIA WITH SUGARS, SOME ALCOHOLS, ORGANIC ACIDS AND AMINO ACIDS.

ZZZZZZZZZZZ UNCLASSIFIED

1/2 - 032 UNCLASSIFIED PROCESSING DATE--020CT70

TITLE--ANTIBODIES AND TRACE ELEMENTS OF THE BLOOD AND IMMUNOGLOBULINS IN CHRONIC DISEASES OF THE LIVER -U-

AUTHOR-(05)-BONDAR, Z.A., ZOLOTNITSKAYA, R.P., UZYANOVA, V.L., BELOKONNITSKIY, D.B., KIRILCHENKO, A.M.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 3, PP 18-23

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INTERNAL ORGAN DISEASE, LIVER, BLOOD CHEMISTRY, TRACE ELEMENT, ANTIBODY, GLOBULIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0815 STEP NO--UR/0504/70/042/003/0018/0023

CIRC ACCESSION NO--AP0102777

UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0102777

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS CONDUCT IMMUNOLOGICAL INVESTIGATIONS IN 110 PATIENTS WITH VARIOUS CHRONIC DISEASES OF THE LIVER COMPARING THEM WITH CLINICAL AND HEMATOLOGICAL DATA. IT WAS FOUND THAT IN 47.2PERCENT OF THE PATIENTS ANTIBODIES TO TRACE ELEMENTS WERE DETERMINED, MOSTLY ERYTHROCYTIC AND THROMBOCYTIC. THERE WAS FOUND A CERTAIN CORRELATION BETWEEN POSITIVE REACTIONS TO ANTIBODIES AND CYTOPENIA, DEGREE OF SPLENOMEGALY AND CHANGES IN THE AMOUNT OF IMMUNOGLOBULINS. THE GREATEST IMMUNOLOGICAL CHANGES WERE OBSERVED IN PATIENTS WITH CIRRHOSIS OF THE LIVER. THE SPLEEN PLAYED A GREAT ROLE IN THE IMMUNE CONFLICT. A SPECIAL IMPORTANCE SHOULD BE ATTACHED TO THE IMMUNE MECHANISM IN THE COMPLICATED GENESIS OF HYPERSPLENISM IN CHRONIC DISEASES OF THE LIVER, HOWEVER THE ASSESSMENT OF IMMUNOLOGICAL DATA SHOULD BE DONE WITH CAUTION IN VIEW OF NONSPECIFIC POSITIVE REACTIONS.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--PHASE DIAGRAM OF AS SUB2 X SUB3 AND ASI SUB3 (X IS SULFUR, SELENIUM) -U-
AUTHOR-(03)-CHERNOV, A.P., DEMBOVSKIY, S.A., KIRILENKO, I.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 262-5

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, PHYSICAL CHEMISTRY PROPERTY, EUTECTIC MIXTURE, SELENIUM COMPOUND, ARSENATE, IODIDE, SULFIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0560 STEP NO--UR/0363/70/006/002/0262/0265

CIRC ACCESSION NO--AP0105545
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105545

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING PHYS. CHEM. ANAL. METHODS, THE PHASE DIAGRAMS OF THESE SYSTEMS WERE PLOTTED. IN BOTH SYSTEMS, THE EXISTENCE OF THE CHEM. COMPD. OF COMPN. ASXI WAS CONFIRMED. THE EUTECTIC NATURE OF REACTION IN THE INDIVIDUAL AS SUB2 X SUB3NEGATIVE ASXI AND ASXI-ASI SUB3 SYSTEMS WAS ESTABLISHED; THERE IS A LIQ. PHASE SEPN. REGION IN THE AS SUB2 SE SUB3NEGATIVE ASI SUB3 SYSTEM.

UNCLASSIFIED

USSR UDC 669.721.372

ZUYEV, N. N., IVANOV, A. E., VUKOLOV, V. V., SYALOV, G. I., IRTUGOV, N. I., GERMIN, Ya. N., AGALAKOV, V. A., SHCHELKONOGOV, A. A., BABUROV, V. F., and KIRILLENKO, I. S.

"Flow Line for Magnesium Production"

Moscow, Tsvetnyye Metally, No 9, Sep 71, pp 36-37

Abstract: An experimental-industrial flow line which uses smelted carnallite as the raw material for the production of magnesium has been established at a Soviet plant. The operation of the flow line is described by reference to a diagram and the distribution of slime (with 20% MgO) by electrolyzers showing the maximum output of slime (up to 60% of its total amount) on the first 3-4 electrolyzers. It is shown that the centralized feeding of diaphragm-type electrolyzers provides a 3-4% increase of magnesium output. To maintain normal temperature conditions and compensate for heat lossss, it is necessary to provide for an increase of current intensity and electrolyzer output by 10-12%, in comparison with electrolyzers with individual feeding. Two illustr., three biblio. refs.

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Food Technology

USSR

UDC 597.0/5-14

ANISYSHKINA, L. N., KIRILENKO, N. S., RYABOV, F. P., and MEL'NIKOV, G. B., Dnepropetrovsk State University

"Dynamics of the Relative Size and Weight of the Viscera in Tilapia mossambica Peters Fed Chlorella"

Moscow, Voprosy Ikhtiologii, No 2, 1971, pp 345-348

Abstract: In 10-month aquarium experiments, Tilapia mossambica Peters was given granulated food containing different percentages of Chlorella and other organisms (Daphnia, yeasts) or nongranulated food not containing Chlorella. The fishes given Chlorella-containing granulated food exhibited greater weight gains and linear growth than did the fishes fed nongranulated food not containing Chlorella, and the physiological changes in the former were fewer than in the latter. Moreover, the food with a high Chlorella content (granules containing 70 to 100% agla) had less effect on the relative size and weight of the liver, gallbladder, spleen, heart gonads, etc. than did food with a low (30%) Chlorella content, nongranulated food, or food not containing Chlorella.

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USSR UDC 677.4:54-171:539.16.04

SLATINA, S. D., KIRILENKO, YU. K., VOL'F, L. A., MEOS, A. I., SHAPIRO, YE. I., VISHNYAKOVA, T. P., PANCHENKOV, G. M., VLASOVA, I. D., KAUCHANSKIY, D. A., and MARNAUSOV, V. A.

"Radiation Resistant Polyvinylalcohol Fibers Containing Ferrocene"

Leningrad, Radiokhimiya, Vol 13, No 5, 1971, pp 786-787

Abstract: Polyvinylalcohol fibers containing ferrocene were obtained by impregnating a freshly formed or thermostabillized PVA-fibers with 5-18% solution of 1,1'-diacetylferrocenylformaldehyde resin [1,1'-DAFF] in acetone. After the impregnation the material was heated to 140-160°C for 10-20 min, resulting in formation of chemical bonds between the hydroxyl groups of the PVA-fiber and the methylal group of 1,1'-DAFF resin (14-18% of chemically bound 1,1'-DAFF resin). The 1,1'-DAFF resin was obtained by polycondensation of diacetylferrocene with formaldehyde in ethanol at 50°C and in presence of sodium carbonate. The modified fiber was subjected to γ-radiation in presence of air oxygen. The strength and the elastic indicators of the ferrocene containing material were superior in comparison to the starting material.
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472 025 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--INFRARED SPECTROSCOPIC STUDY OF DEHYDROCHLORINATED POLY(VINYL CHLORIDE) FIBERS AND FILMS AND THEIR MODIFICATIONS -U-
AUTHOR-(05)-GRACHEV, V.I., BEZPROZVANNYKH, A.V., SHELKUNOV, N.G., KILICHENKO, I.B., KIRILENKO, YU.K.
COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3) 633-8

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--IR SPECTRUM, POLYVINYL CHLORIDE FIBER, TEMPERATURE DEPENDENCE, CATALYST ACTIVITY, CHLORINATION, DEHYDROGENATION, BROMINATION, THIOUREA, POLYMER FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0305 STEP NO--UR/0080/70/043/003/0633/0638

IRC ACCESSION NO--AP0111499
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--020CT70

IRC ACCESSION NO--AP0111499

BSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF MEDIUM, CATALYST, AND TEMP. OF DEHYDROCHLORINATION OF POLY(VINYL CHLORIDE) FIBERS AND FILMS ON THEIR IR SPECTRA WAS STUDIED. DEHYDROCHLORINATION INCREASES WITH TEMP. (110-150DEGRRES) AND TIME AS SHOWN BY INCREASED INTENSITY OF THE BANDS AT 1680-1720 AND 1605 CM PRIME NEGATIVE1 (UNSATD. C-O AND C-C BONDS). TEH BAND INTENSITY AT 3028 CM PRIME NEGATIVE1 (END VINYL GROUPS) ALSO INCREASES WITH TEMP. THE PRESENCE OF A CATALYST INCREASES THE RATE, DIAZOAMINOBENZENE INCREASING THE RATE MORE THAN ALPHA,NAPHTHYLAMINE. USING DIAZOAMINOBENZENE, ALPHA AND BETA UNSUBSTITUTED ALDEHYDE GROUPS ARE FORMED (ABSORPTION AT 1690 CM PRIME NEGATIVE1). DEHYDROCHLORINATION PROCEEDS MORE RAPIDLY IN AIR THAN IN VACUUM. ALSO, THE TREATED PRODUCT WAS BROMINATED WITH 3PERCENT AQ. BR AT 80DEGREES FOR 2 HR TO GIVE BRCHCH:CHCHBR GROUPS. SUBSEQUENT TREATMENT WITH THIOUREA AT 100-2DEGREES SHOWS THE PRESENCE OF THIOAMIDE AND THIOURONIUM GROUPS, WHICH ARE REMOVED BY TREATMENT WITH 2N NAOH, IN THE SPECTRUM.

UNCLASSIFIED

USSR

BLIZNYUK, N. K., LEVSKAYA, G. S., KIRILINA, L. K., VARSHAVSKIY, S. L., All-Union Institute of Plant Pathology

"A Method for Preparing 1,4-Phenylenebisthiophosphonic Acid Esters"

USSR Author's Certification No 255267, class 12o, 26/01 (C 07 f), filed 17 Sep 68, published 25 Mar 70 (from RZh-Khimiya, No 21 (II), 10 Nov 70, Abstract No N562 P by I. A. Mel'nikova)

Translation: Compounds with the general formula 1,4-$[R_2P(S)]_2C_6H_4$ (I) (R = aryloxy-, arylthio-, alkylthio group), active as pesticides or used as intermediates for synthesizing them, are obtained by reaction of 1,4-bis-(dichlorothiophosphoryl)-benzol (II) with phenols, thiophenols, mercaptans in the presence of a catalyst at 120-190°. For example, a mixture of 0.01 mole of II, 0.06 mole of thiophenol, 0.01 g of P_2S_5 and 0.016 g of C_5H_5N is heated for 2 hours at 140-160° until HCL (gas) ceases to evolve, blowing dry N_2 through the reaction mixture. The mixture is allowed to evaporate, forming in the residue I (R = PhS), yield 100%, boiling point 173-4°. I is prepared in a similar fashion: (R, yield in %, boiling point

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USSR

BLIZNYUK, N. K., et al, USSR Author's Certification No 255267, class 12o, 26/01 (C 07 f), filed 17 Sep 68, published 25 Mar 70 (from RZh-Khimiya, No 21 (II), 10 Nov 70, Abstract No N562 P by I. A. Mel'nikova)

in °C or nD (t) are given)7: $4\text{-}ClC_6H_5S$, 62, 183-3; BuS, 93.2, 1.6130 (24); $n\text{-}C_6H_{13}S$, 95.8, 1.5755 (22); $n\text{-}C_8H_{17}S$, 96.5, 1.5590 (20); PhO, 100, 88-9; $4\text{-}NO_2C_6H_4O$, 95.4, 205-7; $2\text{-}ClC_6H_4O$, 83.5, 125-6; $4\text{-}ClC_6H_4O$, 82.5, 145-6; $2,4\text{-}Cl_2C_6H_3$, 86.5, 146-7; $2,4,5\text{-}Cl_3C_6H_2$, 70.9, 193-4.

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UDC 547.341.26.118.07

USSR

BLIZNYUK, N. K., STREL'TSOV, R. V., KIRILINA, I. E., and ZHEMCHUZHIN, S. G., All-Union Scientific Research Institute of Phytopathology

"A Method of Making Dithiofluorophosphonic Acid Esters"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287016, class 12, filed 31 Oct 69, published 19 Nov 70, p 40

Translation: This Author's Certificate introduces a method of making dithiofluorophosphonic acid esters of the general formula

$$RP(S)FSCH_2CH_2NHCOR'$$

where R is an alkyl, aryl or aralkyl, and R' is an aklyl, aryl or aryloxylalkyl. As a distinguishing feature of the patent, anhydrides of dithiophosphonic acids are treated with potassium fluorides in an organic solvent such as methyl ethyl ketone with subsequent treatment of the resultant salt of dithiofluorophosphonic acid in a carboxylic acid chloride and ethylenimine, and isolation of the product by conventional methods.

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USSR

BLIZNYUK, N. K., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287016, class 12, filed 31 Oct 69, published 19 Nov 70, p 40

The patent also coverts a modification of this method distinguished by the fact that the process is carried out at 15-60°C.

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USSR

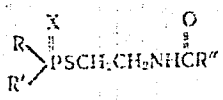
UDC: 547.495.1'26.118.07

BLIZNYUK, N. K., STREL'TSOV, R. V., KIRILLINA, L. E., ZHEMCHUZHIN, S. G., KHOKHLOV, P. S., All-Union Scientific Research Institute of Phytopathology

"A Method of Producing Organophosphorus Compounds"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 28, 1970, Soviet Patent No 280475, Class 12, filed 15 May 69, p 26

Abstract: This Author's Certificate introduces: 1. A method of producing organophosphorus compounds of the general formula



where X is oxygen or sulfur, R is an alkyl, aryl, aralkyl, alkoxyl, alkylthio, aryloxy or arylthio, R' is an alkoxy, alkylthio, aryloxy, or arylthio, benzyloxy, benzylthio or amino group, and R" is an alkyl, alkoxyl or amino group. As a distinguishing feature of the patent, the yield of the goal products is increased by interacting amido- or ether salts od phosphorus acids of the general formula

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USSR

BLIZNYUK, N. K., et al, Otkrytiya, Isobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 28, 1970, Soviet Patent No 260475, Class 12, filed 15 May 69, p 26

where X, R and R' have the meanings listed above, and M is an alkali metal or substituted ammonium, with acid chlorides of the general formula

where R" has the meanings listed above, in an inert organic solvent followed by ethylenimine treatment of the reaction mass and isolation of the goal product by conventional methods. 2. A modification of this method in which the process is carried out at a temperature of 20-80°C.

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KIRILLIAN, V.

Economic management

6 [illegible]

JPRS 55533
30 [illegible] 1972

ROLE OF COMPUTERS AND MATHEMATICS IN MANAGEMENT

[Article by Academician V. Kirillin, "Improving National Economic Management"; Moscow, [illegible], Russian, No 1, 1972, pp 2-3]

At present, the national economy of our country has entered a stage where the intensification of production has become the most important direction in its development. This requires profound qualitative changes in all the sectors of the socialist economy, and above all, the creation of the most rational scientific system of production organization and management. As the technical level of production grows, and as the processes of production concentration, specialization and cooperation develop, the improvement of management assumes ever growing significance.

The 24th CPSU Congress gave very great attention to the problem of national economic management on the basis of using computer technology and economic and mathematical modeling means. The decree which was recently passed by the CPSU Central Committee on improving the economic education of workers also gave great attention to the questions of economic management. Such a situation where such [illegible] attention is given to economic management is in no way accidental. It has a weighty basis. The party views the improvement of management primarily as a political problem.

In recent years, our national economy, industry, agriculture, construction, the economy and [illegible] have gained extremely rapid development. This development has been accompanied by an [illegible] of the existing enterprises and the creation of a large number of new ones. [illegible], here the scientific and economic ties, both within the sector and between the sectors, have very greatly [illegible]. But while the number of enterprises has increased according to a linear progression, the number of ties between them has grown at least by a geometric progression. Under modern

AN0029536

UR9071

TITLE: Research for Practical Purposes

PRIMARY SOURCE: Moscow News, Nr 6, 14-21 Feb 70; p 3

A SESSION of the State Committee for Science and Technology of the USSR Council of Ministers was held on February 2nd, under the chairmanship of Academician Vladimir Kirillin. It was devoted to problems of the raising of engineering standards in production, of the efficiency of scientific research, and of the better utilization of achievements in science and engineering in practical work. Those taking part in the session included ministers, chiefs of departments, prominent scientists and leading personalities from the Union Republics.

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The meeting discussed the problems connected with the fulfilment of the decision of the CPSU Central Committee and the USSR Council of Ministers "On the Measures for Raising the Efficiency of Research Organizations and Accelerating the Introduction of the Achievements of Science and Engineering into the Economy of the Country"

Alexel Kosygin, Chairman of the USSR Council of Ministers, spoke at the session. Dealing with the great importance of science and engineering for the contemporary development of the country's economy, he made special mention of the practical tasks in promoting engineering progress in connection with the evolvement of the Five-Year plan for 1971-1975.

A session of the USSR Academy of Sciences opened on February 3rd. The scientists will exchange opinions on the trends of development in science and engineering, and on the purposeful and rapid introduction of scientific discoveries and engineering inventions into the various fields of the economy.

The state shows great concern for the development of science in our country. In 1970 the expenditure on the advancement of science will increase by 9.3 per cent, and will reach 10,200 million roubles, and taking into account capital investments, will exceed 11,000 million roubles.

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Mstislav Keldysh, President of the USSR Academy of Sciences, spoke about the work done by the scientists and of the tasks facing them in the future.

Keldysh said that the Institutes of the Academy of Sciences had elaborated the main outlines for the plan of research in the natural and social sciences for the forthcoming five-year period, and also the forecasts for the progress of science and engineering for the near future.

The President also described a number of scientific trends which today are of especial importance for the raising of technical standards and the econonic progress of the country. He said that one of the important tasks was the work done in electronics and, in particular, the work on building computers. He dwelt at length on problems connected with the further improvement of the engineering industry. He spoke of the problems of automating machines and machine systems by means of computer techniques and technological operations based on the use of high pressures and temperatures, super-low temperatures, high speeds and different kinds of radiations.

The scientists paid a great deal of attention to promoting progress in agriculture.

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The President called the problem of transplantation and substitution of human organs one of the most topical problems in medicine and biology.

M. Keldysh also examined the tasks of science in furthering the study and utilization of natural resources. He stressed that as a result of the successful activities of learned geologists, the country was completely supplied with all the more important kinds of its own mineral and raw materials.

Speaking about the progress of space research, M Keldysh proposed to give more attention to the work on setting up orbital stations, which open up new opportunities for studying the natural resources of the Earth, for navigation, astronomy, and even for the carrying out of especially delicate technological processes.

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19681147

USSR

UDC 620.9

KIRILLIN, V. A., STYRIKOVICH, M. A.

"Technical Progress in Power Engineering"

Teplofiz. vysokikh temperatur (High-Temperature Thermal Physics), 1970, 8, No 2, pp 235-245 (from RZh-Teploenergetika, No 9, Sep 70, Abstract No 9G1)

Translation: Assimilation was begun in 1968 on the first 500 MW unit at the Nazarovsk State Regional Electric Power Plant, and the first 800 MW unit with double-shaft turbine at the Slavyansk State Regional Electric Power Plant on supercritical steam parameters. In recent years, the efficiency of steam-turbine electric power plants has increased considerably, and in the best plants now approaches 40%. However, it is difficult to expect a further appreciable increase in efficiency, chiefly because of the lack of inexpensive metals which could operate reliably and for long periods (100,000 hours and longer) at a temperature of more than 600°C. The graphite-water channel reactors and water-water vessel reactors which are extensively used in the Soviet Union can utilize only a relatively small part of the energy of nuclear fuel (in thermal reactors, uranium-235 is nearly completely burned up and only about 1% of the uranium-238 is burned). Nevertheless, such electric power stations

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USSR

KIRILLIN, V. A., STYRIKOVICH, M. A., Teplofiz. vysokikh temperatur (High-Temperature Thermal Physics), 1970, 8, No 2, pp 235-245 (from RZh-Teploenergetika, No 9, Sep 70, Abstract No 9G1)

are economically feasible in regions where chemical fuel is relatively expensive. Thus at the present stage, atomic and conventional power engineering are mutually complementary. Considerable work is being done in the Soviet Union, as well as in the United States and England, in the field of developing fast breeder reactors, which are expected to play a principal part in the future development of atomic power engineering, and which permit approximately twenty times more complete utilization of nuclear reserves than can be achieved with thermal power reactors. The authors point out the possibilities of utilizing solar energy and the heat of the Earth's interior for special and local purposes on a relatively small scale. Two illustrations. Yu. A. Mironova.

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1/3 031 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--TECHNICAL PROGRESS IN POWER ENGINEERING -U-

AUTHOR-(02)-KIRILLIN, V.A., STYRIKOVICH, M.A.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK AKADEMII NAUK SSSR, RUSSIAN, VOL 40, NO 4, APRIL 1970, PP 72-75

DATE PUBLISHED----APR70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, ENERGY CONVERSION (NON-PROPULSIVE)

TOPIC TAGS--NUCLEAR REACTOR, GRAPHITE MODERATED REACTOR, WATER COOLED NUCLEAR REACTION, WATER MODERATED REACTOR, ELECTRIC POWER PLANT, FAST NEUTRON, DESALINATION, SEA WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1920 STEP NO--UR/0030/70/040/004/0072/0075

CIRC ACCESSION NO--AP0133733

UNCLASSIFIED

2/3 031 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133733

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE REPORT "TECHNICAL PROGRESS IN POWER ENGINEERING" OF ACADEMICIANS V. A. KIRILLIN AND M. A. STYRIKOVICH IT WAS NOTED THAT POWER ENGINEERING IS A VERY IMPORTANT CONDITION OF GROWTH OF THE ECONOMY AND ELEVATION OF THE TECHNICAL LEVEL OF PRODUCTION. THAT FOUND EXPRESSION IN THE GOELRO PLAN, CALLED BY LENIN THE SECOND PROGRAM OF THE PARTY. PROBLEMS IN THE DEVELOPMENT OF ATOMIC POWER ENGINEERING WERE ILLUMINATED IN A LARGE SECTION OF THE REPORT. THE START OF THE WORLD'S FIRST ATOMIC POWER STATION IN THE SOVIET UNION IN JUNE 1954 BECAME THE START OF A NEW AND IMPORTANT DIRECTION IN THE DEVELOPMENT OF POWER ENGINEERING. THE DEVELOPMENT OF NUCLEAR REACTORS IN THE USSR HAS PROCEEDED IN SEVERAL DIRECTIONS. CHANNEL TYPE GRAPHITE MODERATED WATER COOLED AND VESSEL TYPE WATER MODERATED WATER COOLED REACTORS HAVE BECOME MOST WIDESPREAD. THOSE REACTORS PERMIT USING ONLY A RELATIVELY SMALL PART OF THE ENERGY OF NUCLEAR FUEL. NEVERTHELESS SUCH A ELECTRIC POWER STATIONS ARE ALREADY ECONOMICALLY ADVISABLE IN REGIONS OF RELATIVELY COSTLY CHEMICAL FUEL. THUS, IN THE PRESENT STAGE ATOMIC AND ORDINARY POWER ENGINEERING SUPPLEMENT ONE ANOTHER. IN ADDITION, THIS STAGE OF ATOMIC POWER ENGINEERING IS PREPARING THE TRANSITION TO FAST NEUTRON BREEDER REACTORS, IN WHICH A LARGER PART OF THE NATURAL URANIUM IS USED. THE PREFERENTIAL DEVELOPMENT OF THERMAL NEUTRON REACTORS WILL PROBABLY CONTINUE TO THE 1980S AND EVEN THE 1990S WHEN, ACCORDING TO THE ESTIMATES OF SPECIALISTS, POWERFUL, ECONOMICALLY COMPETITIVE FAST NEUTRON REACTORS WILL BE CREATED AND PRODUCED, WHICH WILL BE THE BASIS OF ATOMIC POWER ENGINEERING OF THE END OF OUR CENTURY.

UNCLASSIFIED

3/3 031 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133733

ABSTRACT/EXTRACT--SCIENTIFIC INVESTIGATIONS IN THE AREA OF FAST NEUTRON REACTORS STARTED IN THE USSR AS EARLY AS THE 1950S. THE FIRST SUCH REACTOR WAS CREATED IN OUR COUNTRY IN 1955 AT OBNINSK. A PILOT REACTOR WITH AN ELECTRICAL CAPACITY OF 150 MW IS NOW BEING CONSTRUCTED NEAR SHEVCHENKO. THAT INSTALLATION, BESIDES THE PRODUCTION OF ELECTRIC POWER, IS ALSO INTENDED FOR THE DESALINATION OF SEA WATER. THE REQUIREMENT OF INCREASE OF RELIABILITY WITH INCREASE OF THE UNIT CAPACITIES IS NATURALLY PRESERVED ALSO FOR ATOMIC POWER STATIONS. A CONFIRMATION OF THIS IS THE SITUATION WHICH HAS DEVELOPED IN ATOMIC POWER ENGINEERING IN THE USA. SIMPLE EXTRAPOLATION OF EXPERIENCE IN THE ERECTION AND OPERATION OF SMALL ATOMIC POWER STATION BLOCKS LED TO AN UNDERESTIMATION OF A NUMBER OF DIFFICULTIES AND CAUSED A SUBSTANTIAL LAG IN THE INTRODUCTION OF CAPACITIES, AS A RESULT OF WHICH AN UNDER PRODUCTION AT ATOMIC POWER STATIONS OF OVER 100 BILLION KILOWATT HOURS IS EXPECTED IN THE NEXT FOUR YEARS. SERIOUS DIFFICULTIES HAVE ARISEN IN THE INTRODUCTION OF VESSEL REACTORS INTO OPERATION.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201320017-3"

USSR

UDC 632.95

BLIZNYUK, N. K., KVASHA, Z. N., VARSHAVSKIY, S. L., BARANOV, Yu. I., LIBMAN, B. Ya., STREL'TSOV, R. V., PROTASOVA, L. D., MARKOVA, L. I., KHOKHLOV, P. S., MADZHARA, G. A., KIRILINA, L. E., All-Union Scientific Research Institute of Phytopathology

"A Method of Making Thiophosphonyl Dihalides"

USSR Author's Certificate No 337384, filed 31 Oct 69, published 2 Jun 72 (from RZh-Khimiya, No 9, May 73, abstract No 9N500 by T. G. Chekareva)

Translation: Compounds of the general formula $RP(S)X_2$ (I) (R = C_1-C_{12}-alkyl, cycloalkyl, aryl, unsubstituted alkyl or alkyl containing substituents, Cl or Br; X = Cl, Br) are synthesized by reacting $(RS)_3P$ (II) with a 2-10-fold excess of PX_3 with heating to 250-330°C in an autoclave. Example. A mixture of 0.07 mole of II (R = Me) and 0.7 mole of PCl_3 is heated in an autoclave test tube of stainless steel at 290-320°C for 5 hours. The excess PCl_3 is driven off at atmospheric pressure and distillation of the residue in a vacuum gives I (R=Me, X=Cl), boiling point 70-3°/80, $n^{20}D$ 1.5510, d_4^{20} 1.4421, yield 52%. Similar methods are used to produce other compounds of type I (given are R, X, boiling point in °C/mm, $n^{20}D$, d_4^{20}, yield in %): Et, Cl, 64-8/15, 1.5418, 1.3527, 58; Pr, Cl, 85-8/15, 1.5285, 1.2942, 40; iso-Pr, Cl, 72-5/15, 1.5290, 1.3017, 47.5; Bu, Cl, 111-13/25, 1.5269, —, 65;

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USSR

SUKHOMLINOV, B. P., Vopr. tekhnol. ulavlivaniya i pererab. produktov koksovaniya, Kharkov, 1972, pp 50-56

sulfur with a sufficient amount of powdered SL. A SN screw mixer is recommended for bringing the components into contact under pressure and pulverizing them at the same time.

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1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THIOPHOSPHORYLATED ETHYLAMIDES OF ARYLOXYALKANE CARBOXYLIC ACIDS -U-

AUTHOR-(05)-BLIZNYUK, N.K., STRELTSOV, R.V., KIRILINA, L.E., KHOKHLOV, P.S., ZHEMCHUZHIN, S.G.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,769

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, AMIDE, PHOSPHORUS SULFIDE, ALKANE, CARBOXYLIC ACID, ORGANIC SYNTHESIS, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1422 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128821

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0128821

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIOPHOSPHORYLATED ETHYLAMIDES OF ARYLOXYALKANECARBOXYLIC ACIDS RP(Y)(XR PRIME1)SCH SUB2 CH SUB2 NHCOR PRIME2 (R EQUALS ALKYL, ARYL, ARALKYL, OXYALKYL(ARYL), THIOALKYL(ARYL); R PRIME1 EQUALS ALKYL, ARYL, ARALKYL; R PRIME2 EQUALS ARYLOXYALKYL; X AND Y EQUALS O, S); WERE PREPD. BY TREATING DERIVS. OF P THIO ACIDS WITH DERIVS. OF ARYLOXYALKANECARBOXYLIC ACID. SALTS RP(Y)(XR PRIME1) SH.M (R, R PRIME1, X, AND Y ARE SAME AS THE ABOVE AND M IS AN ORG. OR INORG. CATION), WERE USED FOR P THIOACID DERIVS.; ARYLOXYALKANECARBOXYLIC ACID CHLORIDE WAS USED FOR THE ARYLOXY, ALKANECARBOXYLIC ACID DERIV.; AND THEIR MIXT. WAS TREATED WITH ETHYLENIMINE. THE TITLE PROCESS TOOK PLACE IN AN ORG. SOLVENT, SUCH AS C SUB6 H SUB6, AT 15-20DEGREES.

FACILITY: ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF PHYTOPATHOLOGY.

UNCLASSIFIED

USSR

UDC 621.373.421.11

KIRILLOV, A. A., RASSTRIGIN, V. V.

"An RC Oscillator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 4, Feb 72, Author's Certificate No 326698, Division H, filed 1 Jul 69, published 19 Jan 72, p 207

Translation: This Author's Certificate introduces an RC oscillator with electronic frequency control. The device contains a source of control voltage, an amplification stage, an emitter follower and a phase-shifting circuit in the feedback line. As a distinguishing feature of the patent, frequency control is provided over a wide range with simultaneous stabilization of the signal generated by the device by shunting each resistor in the phase-shifting circuit with two parallel-opposed diodes, and by connecting the control voltage source to the collector of the transistor in the amplification stage.

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1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EMULSION POLY,VINYL CHLORIDE, FOR LOW VISCOSITY PLASTISOLS -U-

AUTHOR-(04)-SOLDATOV, V.M., KIRILLOV, A.I., MOLKOV, A.D., SHARIKOVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (6), 5-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--EMULSION POLYMERIZATION, POLYVINYL CHLORIDE, FLUID VISCOSITY, ORGANOSODIUM COMPOUND, SULFONIC ACID, LATEX, PARTICLE SIZE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0920 STEP NO--UR/0191/70/000/006/0005/0006

CIRC ACCESSION NO--AP0134649

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134649

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING FINER PARTICLES TO COARSE PARTICLES OF EMULSION POLYMD. POLY(VINYL CHLORIDE) (I) LOWERED THE VISCOSITY OF PLASTISOLS OF I IN DIOCTYL PHTHALATE. THE SIZE OF I PARTICLES FROM EMULSION POLYMN. DEPENDED ON THE QUANT. AND TYPE OF EMULSIFIERS NA C SUB12-18 ALKANESULFONATES (II), NA DODECANESULFONATES (III), OR NA DECANESULFONATES AND C SUB17-20 FATTY ALCS. (IV). ADDING 9PERCENT 0.25 MU I PARTICLES TO 1 MU I PARTICLES FROM DRIED LATEXES STABILIZED WITH 1-1.2PERCENT III (0.5PERCENT ADDED AT THE BEGINNING AND THE REST DURING AND AFTER POLYMN.) AND 0.5PERCENT IV GAVE LOWER PLASTISOL VISCOSITY THAN THOSE OF PLASTISOLS CONTG. 1 MU PARTICLES OR 1 MU PARTICLES AND 18-36PERCENT 0.25 MU PARTICLES. LATEXES PREPD. WITH 0.01PERCENT IV AND 1-1.2PERCENT II AND SEEDED WITH LATEXES CONTG. 0.7-0.8MU AND 0.4 MU PARTICLES IN 2:1 AND 3:1 RATIOS HAD 0.1-1.5 MU PARTICLES, WHICH GAVE THE LOWEST VISCOSITY PLASTISOLS.

UNCLASSIFIED

USSR

UDC: 621.165-226-758.3

KIRILLOV, I. I., FADDEYEV, I. P., AMELYUSHKIN, V. N., KOTOV, Yu. V., VOLCHKOV, V. I., RADIK, S. V., Leningrad "Order of Lenin" Polytechnical Institute imeni M. I. Kalinin

"A Moisture Collector"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332244, Division F, filed 11 Jun 70, published 14 Mar 72, p 134

Translation: This Author's Certificate introduces: 1. A moisture collector designed chiefly for a wet vapor turbine. The device contains collector chambers with drain channels installed in the body of a diaphragm over the hub of the working wheel. As a distinguishing feature of the patent, the efficiency of moisture extraction is increased by making the chambers in the form of annular grooves one over the other. The upper groove is connected by slits to the flow part on the vapor injection side, and the hub is tapered with increasing diameter in the path of the vapor with an annular projection at maximum diameter to throw the

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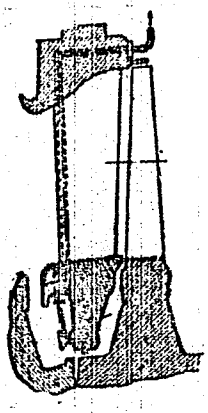
USSR

KIRILLOV, I. I. et al., USSR Author's Certificate No 332244

moisture into the lower chamber. 2. A modification of this moisture collector distinguished by the fact that moisture-catching troughs are provided in the lower chamber.



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UDC 621.1.018.4.001.5:62-151

USSR

KIRILLOV, I. I., Honored Worker in the Science and Technology of the RSFSR, Doctor of Technical Sciences, Professor, KARTSEV, L. V., and SHPENZER, G. G., Candidates of Technical Sciences

"The Influence of the Reynolds Number Upon the Efficiency of Active Stages"

Leningrad, Energomashinostroyeniye, No 1, 1971, pp 42-43

Abstract: The question of the influence of the Reynolds number upon energy losses in turbine stages is studied on the basis of the consideration and analysis of numerous experiments conducted at the Bryansk Institute of Transportation Machinery at various blades of experiments on similar models at the Moscow Power Engineering Institute and at the Neva Machinery Plant at larger Reynolds numbers. Three figures, 1 table, 8 bibliographic entries.

1/1

UDC 547.869+546.185

USSR

SIMOV, D., KIRILOV, M., KAMENOV, L., PETROV, G., Sofia University, Bulgaria

"Phosphorusorganic Derivatives of Phenothiazine and N-Alkylphenothiazine Dioxide"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 2131-2132

Abstract: Reaction of phosphorus oxychloride with phenothiazine at 160° for 10-12 hrs gave N-(dichlorophosphoryl)-phenothiazine, m.p. 145-146°. When N-(2,3-dibromoisobutyl)-phenothiazine dioxide was reacted with triethylphosphite by heating a 1:2 mixture of these reagents to 160° for 4 hrs, N-(2,3-diethylphosphonylisobutyl) phenothiazine dioxide, m.p. 149°, was obtained. Reaction of N-(2-chloro-3-iodopropyl)-phenothiazine dioxide with triethylphosphite gave only N-allylphenothiazine dioxide.

1/1

UDC 619:576.851.55:576.809.33

USSR

URGUYEV, K. R., KIRILLOV, L. V., LYUBICH, F. D., LAVCHENKO, Ye. G., PANFILOV, I.D. and PLESKIKH, A. S.

"Toxin Formation by Cl. perfringens in a Casein-Pancreatic Nutrient Medium"

Moscow, Veterinariya, No 2, Feb 73, pp 39-40

Abstract: A study was made of the cultivation on a casein-pancreatic medium of Cl. perfringens, type D, that causes infectious entertoxemia of sheep and is used as a component part in the preparation of a concentrated polyvalent vaccine used against braxy, infectious enterotoxemia, and malignant dropsy of sheep as well as dysentery of lambs. On enzymatic hydrolysis of the casein at 42°C for 20-30 min, the medium, which contained 25% yeast water and 1% millet, had a high content of all peptide fractions, which form the principal source of N in toxin synthesis. The accumulation of epsilon-toxin was 4-6 times greater than in other media (e.g., Hottinger's medium). The formation of toxin was related to the content in the medium of albumoses with a high and medium molecular weight and depended on the amine coefficient of the medium (the ratio of non-protein N to the total amine N). The highest toxigenicity (20,000-24,000 Dlm/ml) was obtained at an amine coefficient in the 0.72-0.75 range.

1/2

USSR

URGUYEV, K. R, et al., Veterinariya, No 2, Feb 73, pp 39-40

At increasing values of the coefficient to 0.91 and higher, the toxin content dropped sharply (to 4,000-6,000 Dlm/ml). The higher the content of free amino acids and the lower that of peptide fractions, the lower was the concentration of the toxin formed.

2/2

1/3 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PHENYLATION OF BENZYLPHOSPHONIC ACID ESTERS BY BROMOBENZENE IN A SODIUM AMIDE LIQUID AMMONIA SYSTEN -U-

AUTHOR-(02)-KIRILOV, M., LACHKOVA, V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD, NAUK SSSR 1970, 191(6), 1295-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, BENZENE DERIVATIVE, BROMINATED ORGANIC COMPOUND, ANILINE, INORGANIC AMIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0761 STEP NO--UR/0020/70/191/006/1295/1298

CIRC ACCESSION NO--AT0132862

UNCLASSIFIED

2/3 014 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132862

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO NANH SUB2 FROM 1.55 G NA IN 250 ML LIQ. NH SUB3 WITH A TRACE OF FE(NO SUB3) SUB3 WAS ADDED 7.69 G PHCH SUB2 P(O)(OCHME SUB2) SUB2 IN ET SUB2 O, AND THE MIXT. KEPT 0.5 HR, TREATED WITH 4.71 G PHBR, AND KEPT 0.5 HR TO YIELD 62PERCENT UNREACTED ESTER, B SUB0.04 82-5DEGREES, 21PERCENT PH SUB2 CHP(O)(OCHME SUB2) SUB2 (I), B SUB0.04 134-6DEGREES, M. 82-3DEGREES, AND 36PERCENT PHNH SUB2. SIMILARLY, 7.69 G PHCH SUB2 P(O)(OCHME SUB2) SUB2, 2.3 G NA, AND 9.42 G PHBR GAVE 51PERCENT UNREACTED ESTER, 36PERCENT I, AND 0.6PERCENT PH SUB2 CHP(O)(OCHME SUB2) SUB2, YELLOW FORM, M. 118-19DEGREES. SIMILARLY WERE PREPD. THE FOLLOWING PH SUB2 CHP(O)(OR) SUB2: ET, 23PERCENT, B SUB0.05 138-40DEGREES, N PRIME20 SUBD 1.5460, D PRIME20 1.1278; PR, 21PERCENT, B SUB0.04 150-2DEGREES, 1.5345, 1.0866; BU, 18PERCENT, B SUB0.04 154-5DEGREES, 1.5270, 1.0676, ISO-BU, 18PERCENT, B SUB0.06 150-2DEGREES, 1.5255, 1.0658; C SUB6 H SUB11, 20PERCENT, B SUB0.04 158-9DEGREES, 1.5250, 1.0521; AND ISO-C SUB5 H SUB11, 20PERCENT, B SUB0.06 159-60DEGREES, 1.5235, 1.0500. SINCE THE MAIN PRODUCT IS PHNH SUB2 (30-50PERCENT), EVIDENTLY THE CARBANION OF THE BENZYLPHOSPHONATE IS A WEAKER NUCLEOPHILE THAN THE AMIDE ANION, WHICH ALLOWS FOR MONOPHENYLATION AS INDICATED; THE CARBANION OF BENZYLPHOSPHONATE IS ALSO A WEAKER NUCLEOPHILE THAN THE PHENYLACETATE ANION. AS THE DURATION OF THE REACTION IS INCREASED, THE YIELD OF I DECLINES, OWING TO ITS SUBSEQUENT REACTIONS, YIELDING A COMPLEX MIXT. OF LARGELY UNIDENTIFIED PRODUCTS. INCREASED PROPORTION OF PHBR AND NANH SUB2 TENDS TO RAISE THE YIELD OF I, PROBABLY OWING TO INCREASED CONCN. OF THE DEHYDROBENZENE INTERMEDIATE.

UNCLASSIFIED

3/3 014 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AT0132862
ABSTRACT/EXTRACT--UNDER THE CONDITIONS SHOWN ABOVE THE YIELD OF I IS 6PERCENT WITH LINH SUB2, 21PERCENT WITH NANH SUB2, AND 17PERCENT WITH KNH SUB2. FACILITY: SOFI. UNIV., SOFIA, BULG.

UNCLASSIFIED

Acc. Nr. AA0034551 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code 0000

70050e Rapid-drying foundry-core binders from organic by-products. Borskaya, E. A.; Kobzeva, Z. A.; Zotov, A. B.; Egorycheva, G. V.; Makarova, T. F.; Kiseleva, M. S.; Kirillov, M. I.; Andrienko, K. A.; Tsygankov, V. I. Scientific Research Institute of the Technology of the Automotive Industry) Brit. 1,177,883 (Cl. B 22c), 14 Jan 1970, Appl. 13 Sep 1968; 2 pp. Binders having several years shelf life, for sand cores hardening in <1.5 min in core boxes heated to 240–60°, are obtained by mixing 60–70 parts sulfite liquor by wt. with 15–30 parts polyat. alc. mother soln. from pentaerythritol production, and adding to the mixt. 8–15 parts of an oxidn. catalyst slowly during 30–60 min with stirring or other means to suppress foam and prevent temps. >60–70°. Suitable sulfite liquor or lye has 1.27 sp. gr. Hydrolysates of corn cobs or sawdust can be substituted for it. Suitable mother soln. contains saccharides 11–13, pentaerythritol 8–12, resins 4–10, acids 2–5, and H_2O 60–75%, and has at least 1.16 sp. gr. The oxidn. catalyst can be H_3PO_4, a persulfate, or H_2O_2, and if the latter, not over 3% of a 30% aq. soln. should be used, with a H_2O-cooling jacket for cooling below 25°. The mixed binder should have 1.25–1.3 sp. gr. and 4–4.8 pH. Cores thus bonded retain useful properties 3–4 days. When they also contain up to 3% clay, hardening is faster than 1.5 min and the core strength is increased 25% or more. The collapsibility of the cores after castings are cooled is not impaired by these binders.

George F. Comstock

REEL/FRAME

19711247

1/2 040 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--ALUMINUM ALLOYS FOR CAST PISTONS -U-

AUTHOR-(04)-BUSAROV, V.M., KIRILLOV, M.I., AMOSOV, V.N., ARSHINOV, V.D.

COUNTRY OF INFO--USSR

SOURCE--BRIT. 1,180,880

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PROPULSION AND FUELS

TOPIC TAGS--ALUMINUM ALLOY, CHEMICAL COMPOSITION, CHEMICAL PATENT, METAL CASTING, HEAT RESISTANT METAL, HARDNESS, METAL SOLID SOLUTION, TENSILE STRENGTH, FATIGUE STRENGTH, INTERNAL COMBUSTION ENGINE COMPONENT, PISTON ENGINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0215 STEP NO--UK/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AA0100739

UNCLASSIFIED

2/2 040 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AA0100739

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AL CASTING ALLOYS HAVING HIGHER STRENGTH AT 300DEGREES AND LOWER COEFF. OF EXPANSION THAN OTHER AL BASE ALLOYS FOR PISTONS CONTG. 15-19PERCENT SI, CONTAIN SI 20-2, CU 2.2-3, NI 2.2-2.8, MG 0.2-0.5, MN AND CR EACH 0.2-0.4, TI 0.1-0.3, AND FE 0-0.9PERCENT. THE MELT SHOULD BE INOCULATED WITH A P COMPD., REFINED WITH CL OR CHLORIDE AT 700-850DEGREES, AND CAST AT 780-850DEGREES. CU, NI, AND CR COMPDS. INCREASE THE HEAT RESISTANCE, MN IMPROVES THE STABILITY OF THE AL SOLID SOLN., AND CR AND MN BREAK UP THE COARSE FE-SI COMPD. PLATES. AFTER 10 HR ANNEALING AT 360-80DEGREES AND AIR COOLING THESE CASTINGS HAVE 16-20 KG-MM PRIME2 TENSILE STRENGTH, 0.2-0.5PERCENT ELONGATION, 90-110 BRINELL HARDNESS, 9-12 KG-MM PRIME2 FATIGUE LIMIT FOR 5 TIMES 10 PRIME7 CYCLES, AND 5-6 KG-MM PRIME2 125 HR RUPTURE STRENGTH AT 300DEGREES. AFTER 12 HR HEATING AT 220-40DEGREES AND AIR COOLING, THE ABOVE PROPERTIES ARE 19-23, 0.2-0.5, 100-130, 10-13, AND 6-6.5, RESP. THE COEFF. OF LINEAR EXPANSION AT 20-300DEGREES IS (18.5-19.5) TIMES 10 PRIME6. THE ALLOYS ARE THUS SUITABLE FOR PISTONS IN "SUPERCHARGED AUTOMOTIVE ENGINES."

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201320017-3"

USSR UDC 77.021.11

KIRILLOV, N. I., VASIL'YEVA, N. V., ZELIKMAN, V. L., All-Union State Scientific Research and Planning Institute of the Chemico-photographic Industry

"Obtaining Concentrated Photographic Emulsions by Means of Their Successive Freezing and Melting"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, No 6, Nov-Dec 70, pp 441-443

Abstract: A method patented by the authors makes it possible, by freezing an emulsion at low temperatures (minus 10-20°C and lower), to remove more than 90% of the moisture from the emulsion (i.e., to concentrate it by a factor of 10 and more), and to obtain the required concentrated emulsion with a low gelatin content. This method has proved very effective in its use for obtaining especially fine-grain "transparent" photographic emulsions for precision photography, holography, etc. 2 tables, 6 bibliographic entries.

1/1

1/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--CRYSTAL AND MOLECULAR STRUCTURE OF PI COMPLEXES OF GROUP V TRANSITION METALS WITH ACETYLENE LIGANDS. IV. BIS (CARBONYL PI

AUTHOR-(03)-GLUSEV, A.I., KIRILOVA, N.I., STRUCHKOV, YU.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 62-70

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CRYSTAL STRUCTURE, MOLECULAR STRUCTURE, COMPLEX COMPOUND, ACETYLENE, NIOBIUM COMPOUND, X RAY STUDY, PARAMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0447 STEP NO--UR/0192/70/011/001/0062/0070

CIRC ACCESSION NO--AP0104060

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104060

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPLETE X RAY ANAL. OF THE STRUCTURE OF THE TITLE BI NUCLEAR COMPLEX IS CONDUCTED. THE STRUCTURE IS INTERPRETED BY THE HEAVY ATOM METHOD AND MADE MORE PRECISE BY THE METHOD OF LEAST SQUARES IN ISOTROPIC APPROXN., R EQUALS 11.3PERCENT. THE GEOMETRY OF THE MOL. AND THE CHARACTER OF THE COORDINATION OF THE BRIDGE ACETYLENE LIGANDS IS PRACTICALLY NO DIFFERENT FROM THAT FOUND EARLIER IN THE COMPLEX ((PI C SUB5 H SUB5)NB(CO)(PH SUB2 C SUB2)) SUB2. THE GEOMETRIC PARAMETERS ARE COMPARED OF THE COORDINATED TRIPLE BOND AND ITS FREQUENCIES IN PI ACETYLENE COMPLEXES OF NB. C. J. STEINBERG.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--CRYSTAL AND MOLECULAR STRUCTURE OF PI COMPLEXES OF GROUP V TRANSITION METALS WITH ACETYLENE LIGANDS. IV. BIS (CARBONYL PI
AUTHOR-(03)-GLUSEV, A.I., KIRILOVA, N.I., STRUCHKOV, YU.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 62-70

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SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CRYSTAL STRUCTURE, MOLECULAR STRUCTURE, COMPLEX COMPOUND, ACETYLENE, NIOBIUM COMPOUND, X RAY STUDY, PARAMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0447 STEP NO--UR/0192/70/011/001/0062/0070

CIRC ACCESSION NO--AP0104060
UNCLASSIFIED